Rabies Prevention & You

A Patient's Guide

If you or someone you know has been exposed to rabies, you probably have many concerns and questions about the virus itself—and about what happens next. This brochure is provided to guide you through the treatment process and give you some general rabies information. However, this brochure is *not* a substitute for professional medical attention and your doctor's advice. Exposure to rabies requires medical attention as soon as possible. (Rabies, if treated immediately, is preventable!)

What Is Rabies?

Rabies is a virus that attacks the brain and nervous system. It is transmitted from animal to animal and from animal to human. **If left untreated in humans and animals, rabies is fatal.**[1,2] It is therefore necessary for you to complete rabies treatment.

How Does the Virus Spread?

The rabies virus lives in the saliva of infected animals. Infected animals spread the virus to others by scratching or biting. The virus can also be spread through infected saliva contact with open cuts or wounds, and with the mouth, eyes, and nose.[2]

What Is "Exposure" to Rabies?

Exposure to the rabies virus means you may have been bitten or scratched by one of a variety of animals that are known to carry the disease.

Around the world, wild animals (especially mammals) are the most frequent carriers of the rabies virus. In the United States, some of the most common wildlife rabies carriers are bats, skunks, raccoons, foxes, and coyotes.[1] Humans in the United States have the greatest chance of being *directly* exposed to the rabies virus through contact with unvaccinated cats and dogs, as well as with bats.[3,4]

How Can Rabies Be Prevented?

There are 2 forms of rabies prevention:

- **Pre-exposure immunization** is given to help protect people who might come into future contact with rabies, due to high-risk occupations or travel to countries where rabies is a concern[4]
- **Postexposure treatment** is given to anyone who has actually been exposed to the rabies virus—even if they have already received pre-exposure prophylaxis[4]

Who Needs Rabies Protection...	and When
Veterinarians, animal control officers, spelunkers, wildlife handlers, and anyone who works in animal-related industries, such as research laboratory workers	Routine pre-exposure vaccination Postexposure treatment, within recommended guidelines
Travelers to countries where rabies is widespread	Pre-exposure vaccination before departure
General public	Postexposure treatment, within recommended guidelines, even if animal is merely *suspected* of having rabies; consult a medical professional immediately

For pre-exposure vaccination: Rabies vaccine

If your job or travel plans place you at risk for rabies exposure, you will need a series of 3 immunizations, given today (day 0), a week from today (day 7), and 3 or 4 weeks from today (day 21 or 28).[4] As long as you are at risk of rabies exposure, it is also recommended that you have a blood test every 2 years to determine whether you should get a "booster" immunization.

The rabies vaccine is usually administered in the upper arm. Some people experience local reactions such as pain, redness, swelling, and itching at the injection site; headache, nausea, abdominal pain, muscle aches, and dizziness are also possible.[5]

Pre-exposure rabies vaccination should not be given when you are ill with a fever.

IMPORTANT: Pre-exposure immunization does not eliminate the need for prompt treatment following an exposure to rabies. As with any vaccine, vaccination with a rabies vaccine may not protect 100% of susceptible individuals.[5]

Postexposure treatment: Rabies vaccine plus rabies immune globulin

If you are scratched or bitten by an animal that may be rabid, you will need postexposure treatment. For most people that consists of a series of rabies immunizations, plus a dose of rabies immune globulin.

Rabies immune globulin contains human antibodies that are extracted from the blood of people who have already been vaccinated with rabies vaccine. It is used to provide an immediate protection against rabies. Rabies immune globulin should always be given together with rabies vaccine.

Adverse reactions may include tenderness, pain, soreness, and muscle stiffness at the injection site.[6]

If you are exposed to rabies within 2 years of receiving adequate rabies vaccination, you may not need a full postexposure treatment; however, you still require medical attention and at least 2 additional rabies immunizations. Be sure to consult a medical professional as soon as possible.

When Should Postexposure Prevention Start?

The only way to prevent rabies after being exposed is by receiving rabies immune globulin together with rabies vaccine, *before* symptoms appear. In most cases, symptoms can appear anywhere from 20 to 60 days after exposure. However, symptoms have been known to appear much sooner, so immediate medical attention is necessary.

Following the treatment schedule is crucial to preventing rabies symptoms from appearing. To help you keep track of this important routine, a handy calendar is provided on the opposite page. Just fill in the dates (or have your medical professional write them in for you) and be sure to get *all* required rabies vaccinations and immune globulin treatments.

Pre-Exposure and Postexposure Rabies Treatment Schedules

The following calendars are designed to help you and your medical professional keep track of your rabies vaccination schedule. One calendar is for pre-exposure and a choice of 2 calendars are for postexposure. Your medical professional should tell you which is right for you; he or she should also complete it for you.

It is important to get all vaccines on the recommended dates!

Healthcare provider: Please check the appropriate box and fill in the corresponding chart.

■ **Pre-exposure vaccination schedule for those who have not been exposed to rabies, but are at risk due to their occupation or travel plans[4]**

Treatment Schedule	Treatment Needed	Recommended Date of Treatment (month/day/year)	Where Treatment Was Administered
Day 0	Rabies vaccine	/ /	
Day 7	Rabies vaccine	/ /	
Day 21 or 28	Rabies vaccine	/ /	

■ **Vaccination schedule for those exposed and not previously vaccinated: includes rabies immune globulin together with rabies vaccine[4]**

Treatment Schedule	Treatment Needed	Treatment Date (month/day/year)	Where Treatment Was Administered
Day 0	Rabies immune globulin and rabies vaccine	/ /	
Day 3	Rabies vaccine only	/ /	
Day 7	Rabies vaccine only	/ /	
Day 14	Rabies vaccine only	/ /	
Day 28	Rabies vaccine only	/ /	

■ **Vaccination schedule for those who have been exposed and have had pre-exposure vaccinations: rabies vaccine only on all days[4]**

Treatment Schedule	Treatment Date (month/day/year)	Where Treatment Was Administered
Day 0	/ /	
Day 3	/ /	

References: 1. Plotkin SA, Rupprecht CE, Koprowski H. Rabies vaccine. In: Plotkin SA, Orenstein WA, eds. *Vaccines*. 3rd ed. Philadelphia, Pa: WB Saunders Co; 1999:743-766. **2.** Rosenthal KE, Thornton GF. The 10 most common questions about rabies. *Infect Dis Clin Pract.* 1993;3:44-48. **3.** Plotkin SA. Rabies. *Clin Infect Dis.* 2000;30:4-12. **4.** Centers for Disease Control and Prevention (CDC). Human rabies prevention–United States, 1999: recommendations of the Advisory Committee on Immunization Practices (ACIP). *MMWR Morb Mortal Wkly Rep.* 1999;48(RR-1):1-21. **5.** IMOVAX® Rabies full Prescribing Information, 1991. **6.** IMOGAM® Rabies–HT full Prescribing Information, 1997.

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